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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

HEMLOCK LOOPER
PACIFIC COUNTY, WASHINGTON

by
F. P. Keen
Entomologist

Forest Insect Field Station
Portland, Oregon,
April 29, 1931.

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MISSOULA
FOREST INSECT
LABORATORY

Portland, Oregon
April 29, 1931

MEMORANDUM ON HEMLOCK LOOPER OUTBREAK IN PACIFIC COUNTY.

The brief examination of the hemlock looper infested area on the Naselle River which was made last fall indicated that approximately 500 acres were seriously defoliated and that the egg laying had probably extended to an area of about 5000 acres.

On the 23rd of this month, Mr. Clark Savidge, Commissioner of the Washington State Land Office, Mr. C. S. Chapman, and Mr. F. L. Nethery of the Weyerhaeuser Timber Company and the writer visited the area and examined the infested tracts which had been seen last fall. Mr. Nethery and I spent an additional day scouting out other infested areas, and I spent a third day on the ground taking records on degrees of defoliation.

The scouting by Mr. Nethery and myself brought to light a much worse situation than had been previously suspected. South of the Naselle River, in an area which can only be reached by boat and is not readily visible from any point, we found that an area of approximately 5000 acres were heavily defoliated last year, and the year before. Local loggers reported that the trouble was first noted in 1929 when small patches 5 to 10 acres in extent south of the river were seen to be turning red. In 1930 these patches coalesced into larger groups so that a large area appeared as though swept by fire. That year (1930) the caterpillars were first noticed in their logging operation north of the river (Sec. 32 T. 11 N, R 9 W), and were particularly bad by fall.

Examination showed that the eggs were just starting to hatch, so that the extent and severity of this years attack could hardly be gauged as yet.

The additional information secured during this examination brings out several important points:

1. That 1930 was the second year of the outbreak rather than the first, as had been previously supposed (although it was the first year as far as certain of the spots north of the river were concerned).
2. That fully 6000 acres have been heavily defoliated instead of 500, and that there are possibly other areas which have not as yet been located. The country is particularly difficult to view in its entirety from the ground and viewing from an airplane would be about the only way of getting a complete picture of the situation.
3. That in respect to the economics of control, the ratio of the area to be dusted to the area to be protected instead of being about 1 to 10 as previously supposed, is more probably nearly 1 to 2. The cost of control is also increased fully ten times and is now so great that it is more or less out of the question to consider dusting to control the entire outbreak.

4. The only thing that can be done is to dust certain highly valuable tracts to protect them until the epidemic has passed. On this basis each tract must justify the expense of its own dusting, since no credit can be given for the protection of other areas. In other words, unless any given acre is valuable enough to justify a \$6.00 or \$7.00 expense to save the timber on it, control through airplane dusting can hardly be undertaken with profit.

It is planned to examine the area at frequent intervals to determine how the infestation will progress during the present season. It is quite possible that additional information will be secured on the effect of weather conditions, parasites or other factors which will tend to modify any control plans.

F. P. Keen,
Entomologist.
U.S. Bureau of Entomology.

BUREAU OF ENTOMOLOGY
RECEIVED
★ MAY - 3 1931 ★
Coeur d'Alene, Ida. Station

501 Lewis Bldg.
Portland, Oregon
May 5, 1931

Mr. C. S. Chapman
Weyerhaeuser Timber Company
Tacoma, Washington

Dear Mr. Chapman:

I regret the considerable delay, since my return from the hemlock looper area, in getting a memorandum of our findings to you. I hope that this hasn't inconvenienced you in any way, nor that any plans have been made which will be affected.

As you mentioned when we were on the area, further examinations by Mr. Nethery and myself did turn up a very large infested area which had not been seen before. What we saw of the infestation south of the river on the day you were there, was only the fringe of a very extensive belt which covers the entire basin back to the foot of the hills separating the Naselle from the Bear River drainage. This is a very inaccessible area and a jungle of salal so they say. Since you have to cross the river by boat to get to it we didn't penetrate the area, but did have a chance to view it from the north shore.

The discovery of this very extensive area and the increased cost of dusting which this would involve if an attempt were made to dust the entire area, throws a different slant on the feasibility of attempting the project. I certainly wouldn't want to recommend attempting the project on such a gigantic scale until we know more about the technique of handling the work. While we have considerable experience of others to draw upon, yet methods and the details of such work have to be built up for each separate project. I still feel however, that it is worth doing on an experimental basis, and if there are any tracts of timber which will in themselves justify the expense of \$6 to \$7 per acre, that the timber on such tracts could be saved.

Following my next visit to the area, I will let you know if any additional facts are uncovered. I am sending a copy of this letter to Maj. Cowan, Mr. Savidge, Mr. Joy and Mr. Nethery.

Sincerely yours,

F. P. KEEN,
Entomologist.